

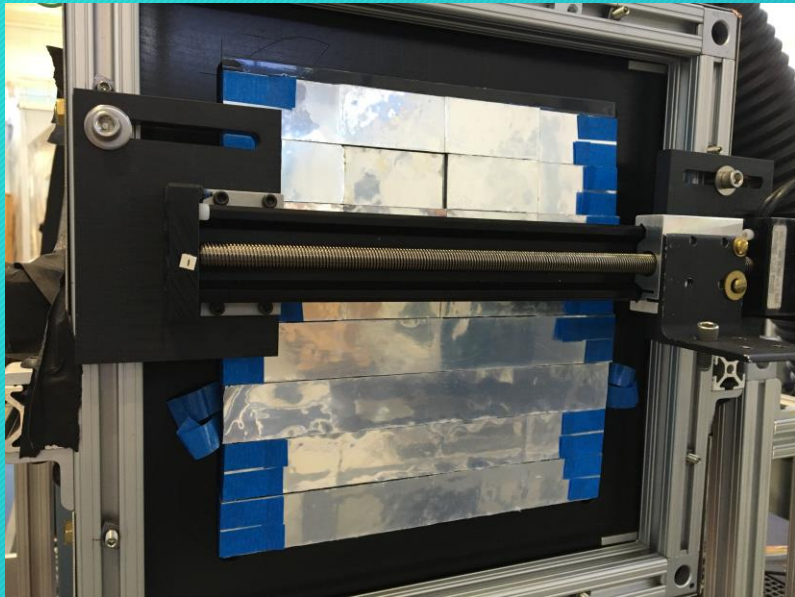
# Lightguides update

1

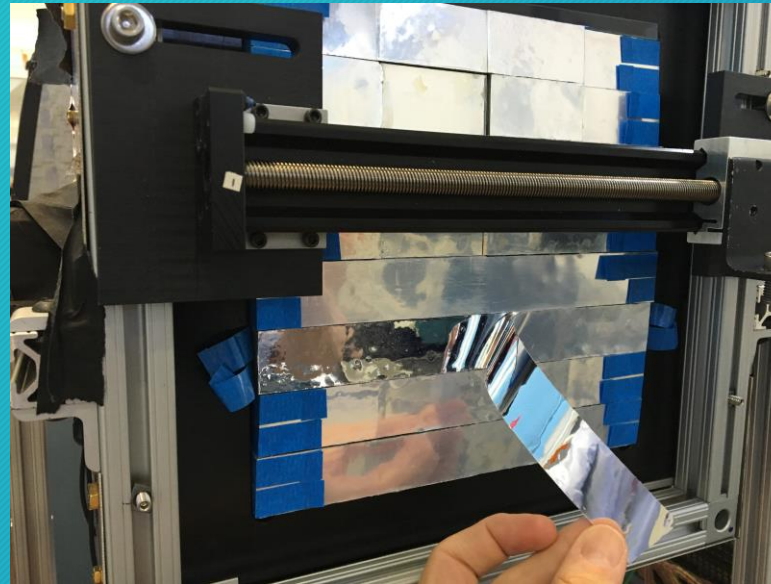
sPHENIX EMCAL Weekly mtg  
9/20/2016

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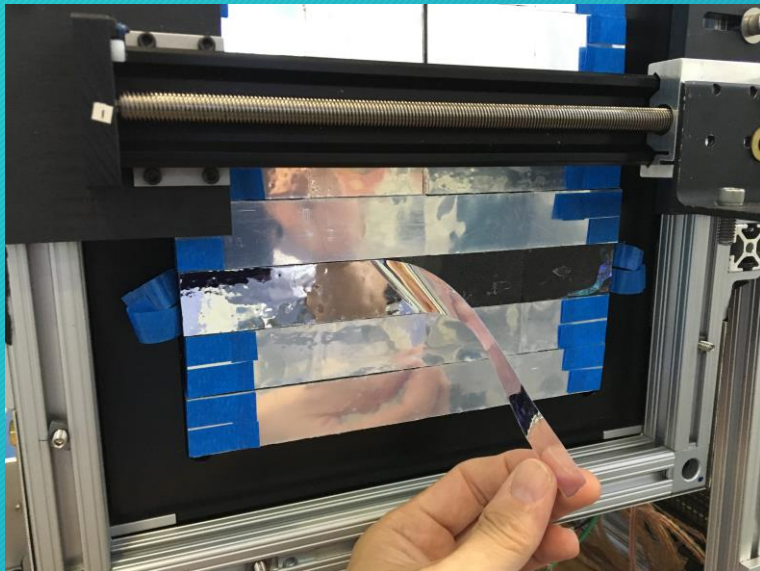




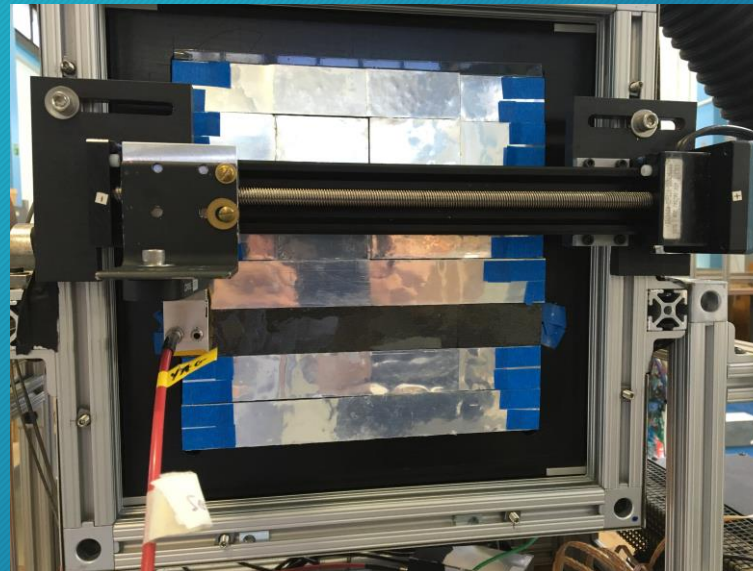
Back of absorber block



Remove first layer of reflector

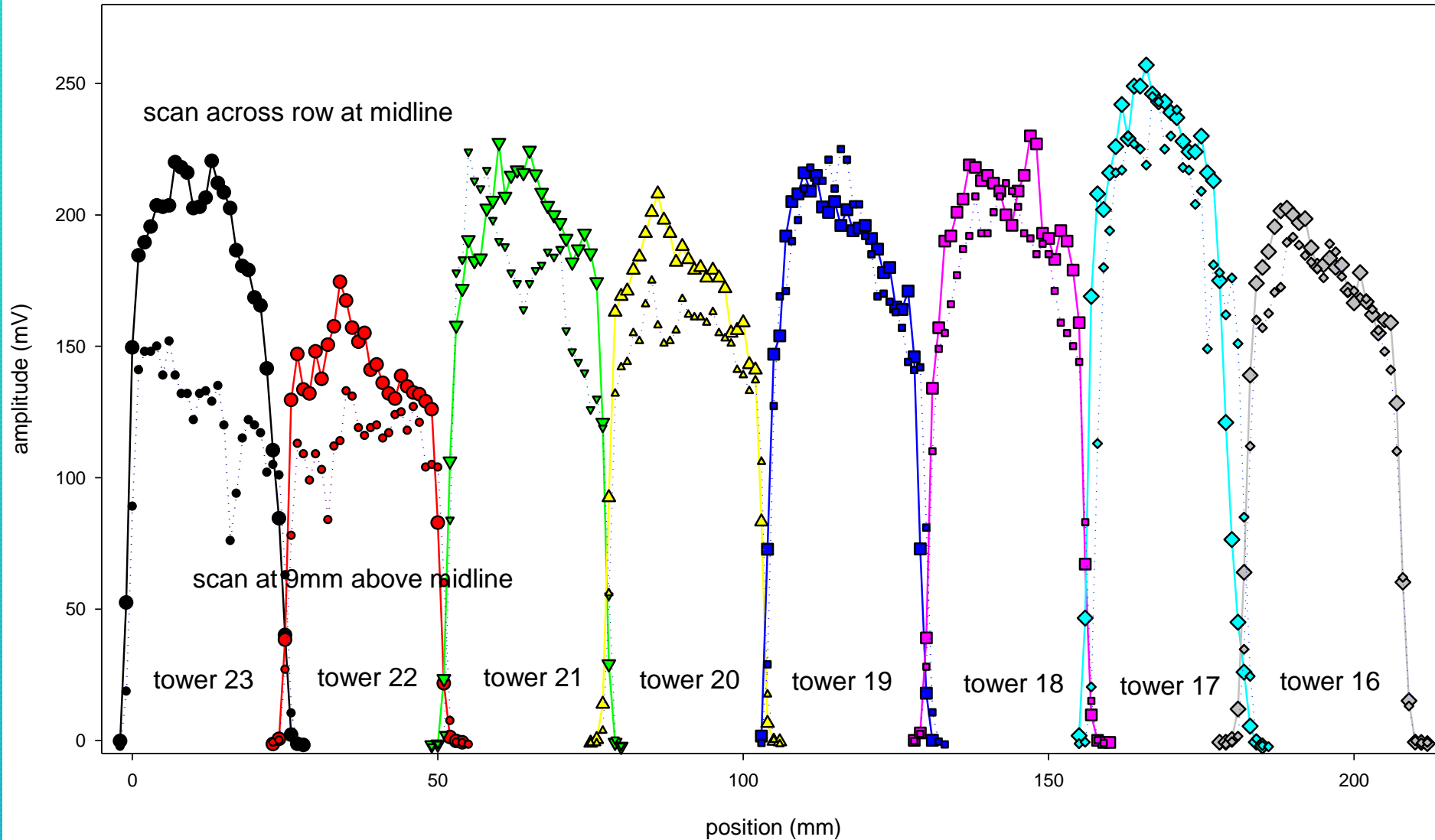


Remove second layer of reflector

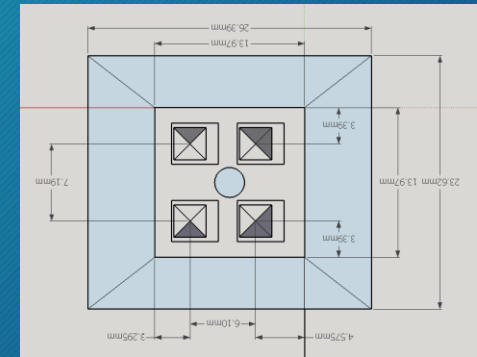
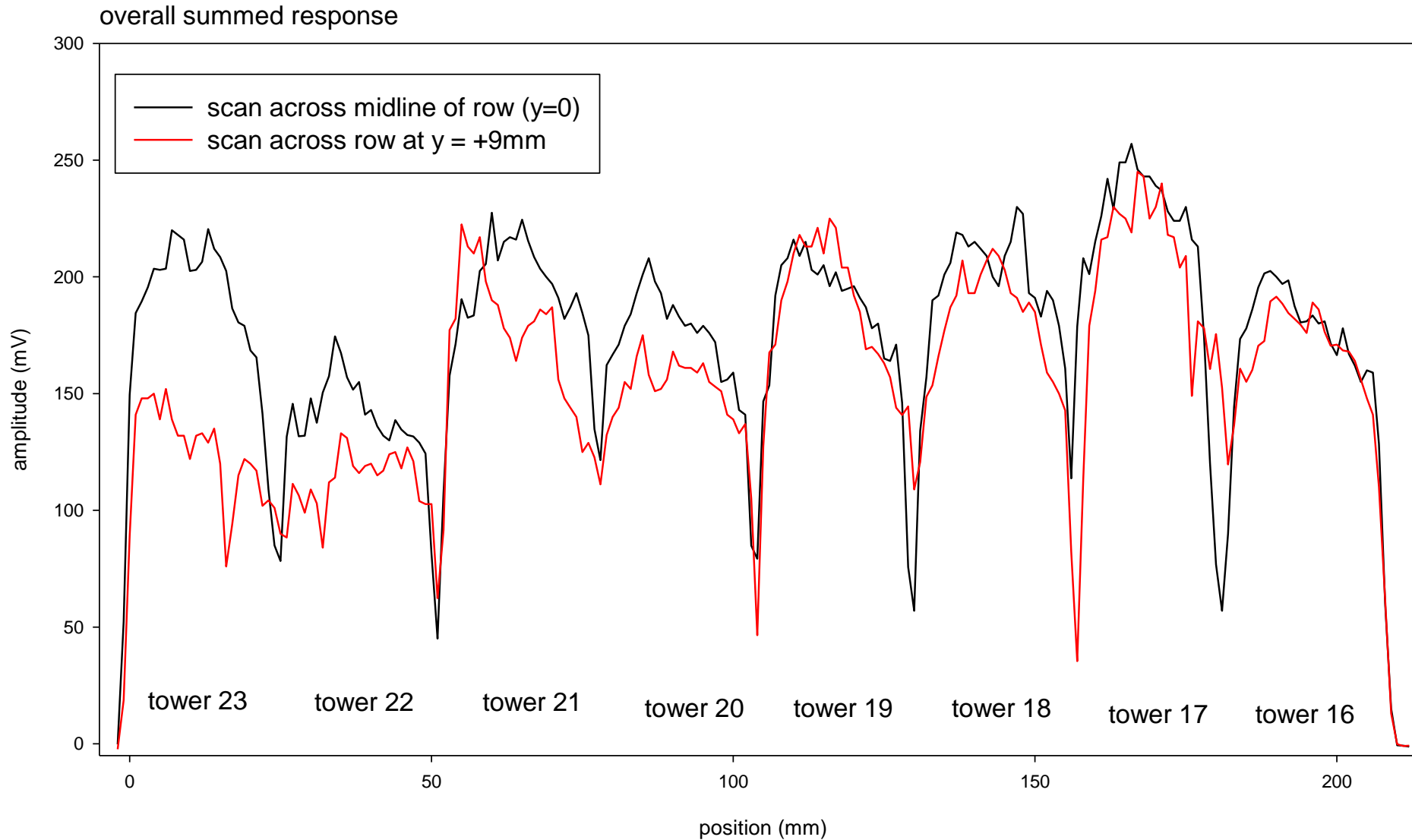


Align fiber to scan across blocks

Scan across back of absorber block (reflector removed) with LED/optical fiber (360nm)  
Response measured as tower output (4 sipms > preamp). Siplm gains set to  $2.5E5$ , preamps: HG

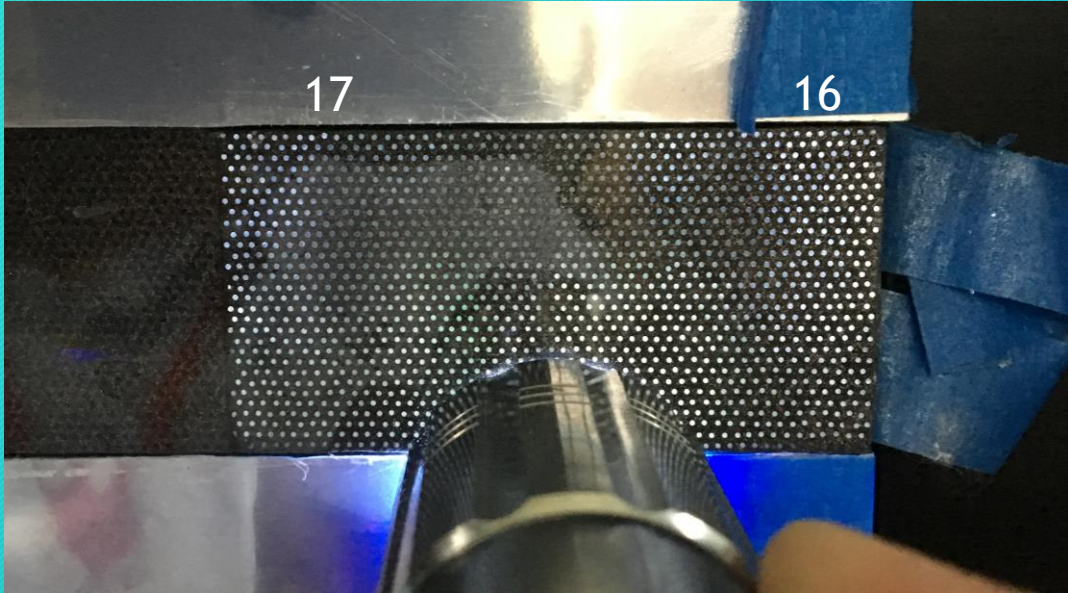




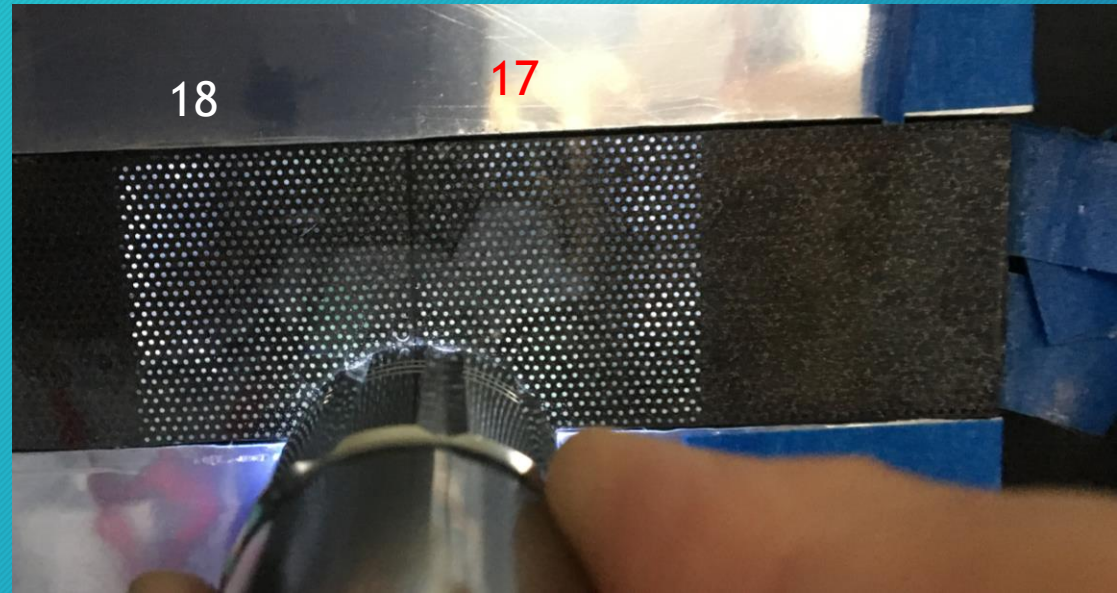


Left-skew of the Distributions is consistent with the offset position of the sipm active areas.

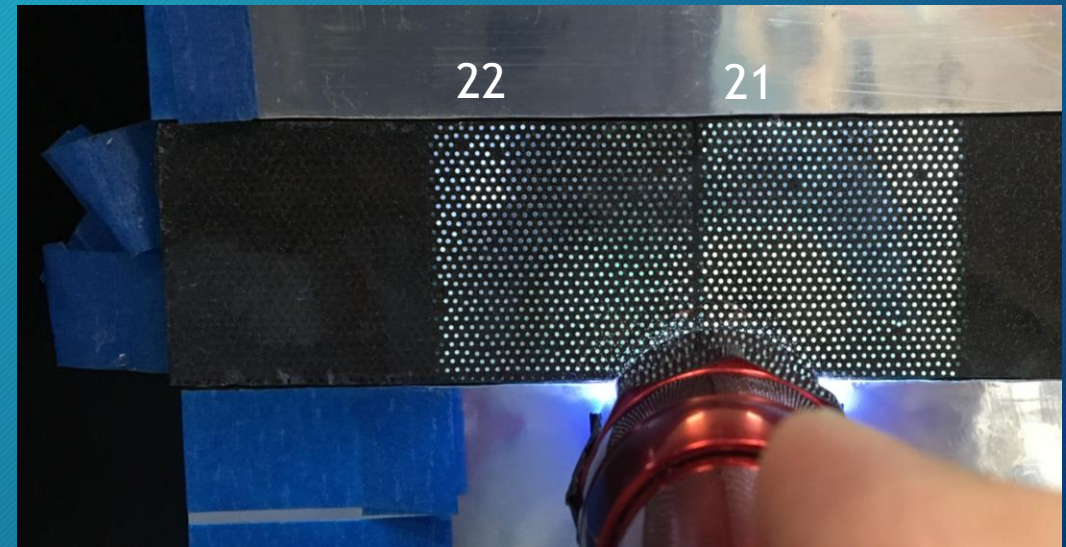
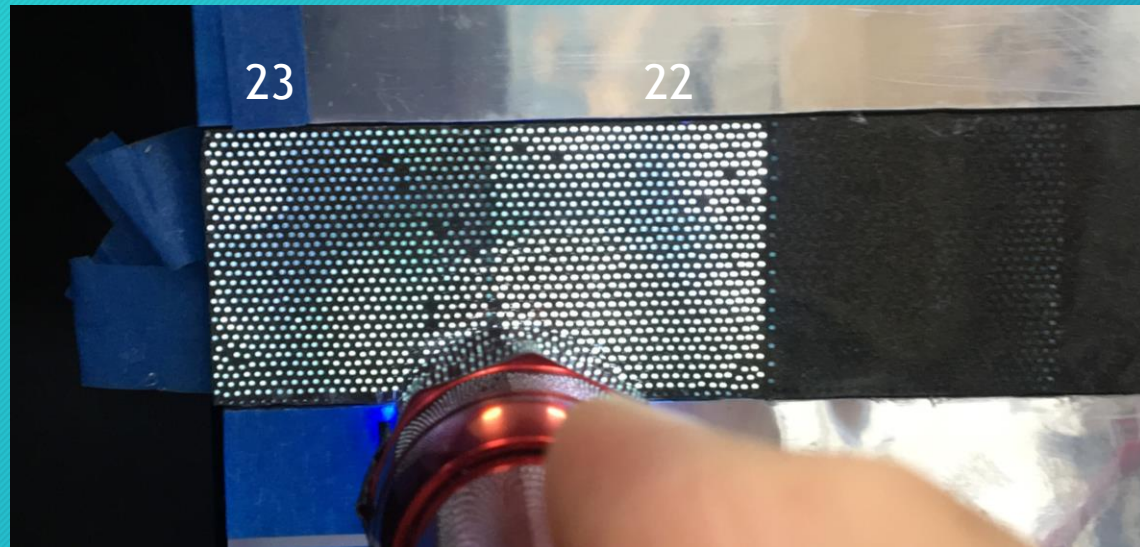




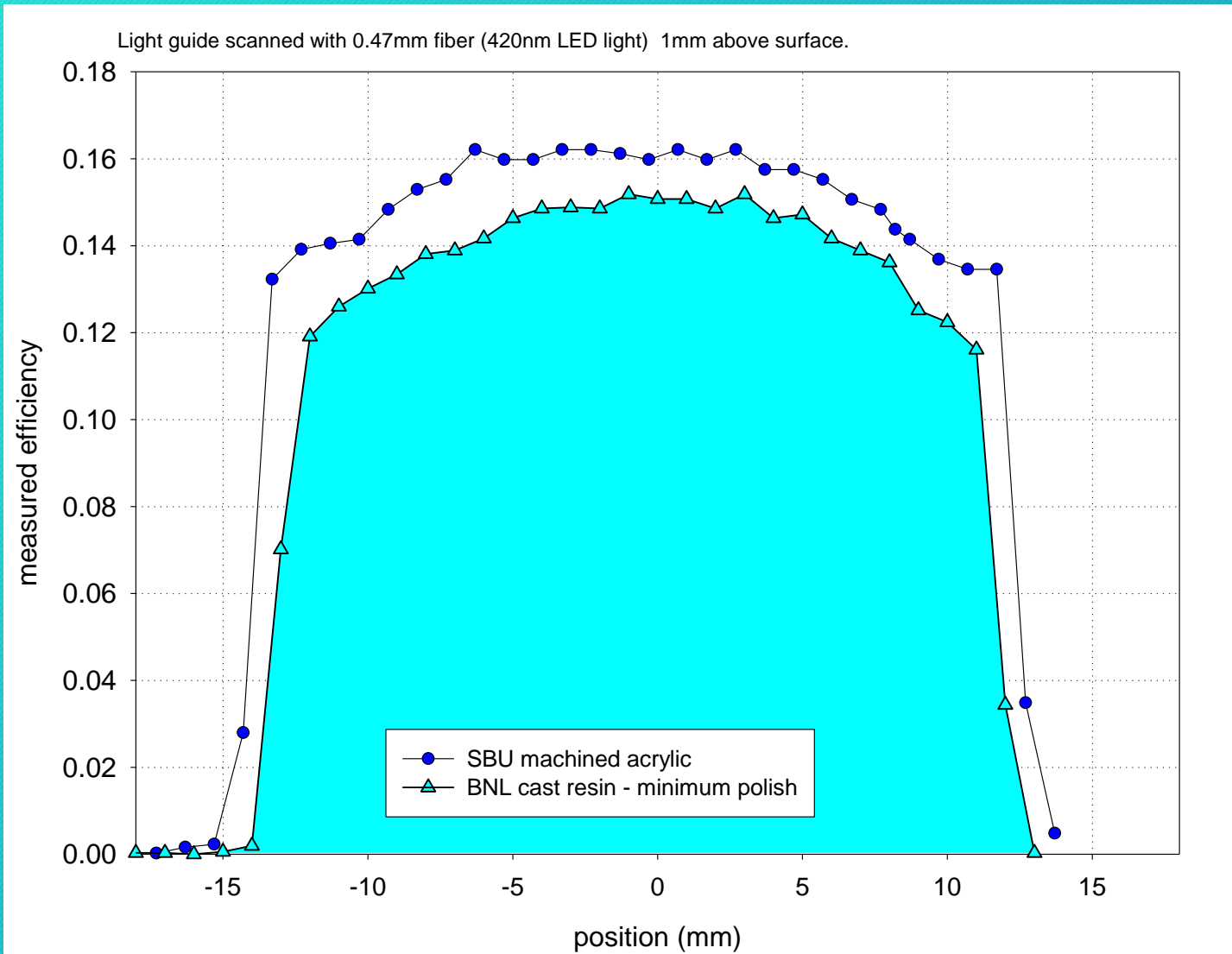
Tower boundary



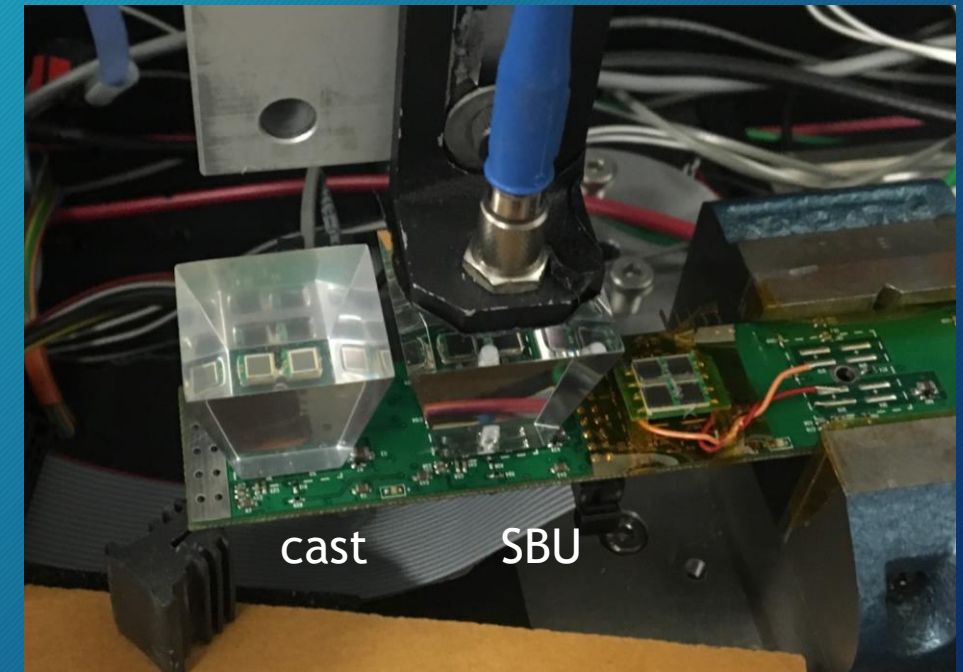
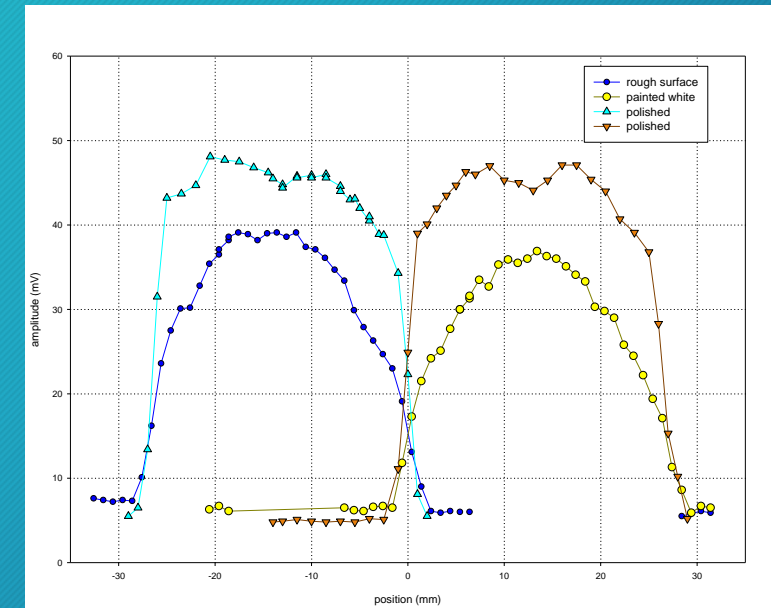
Block boundary

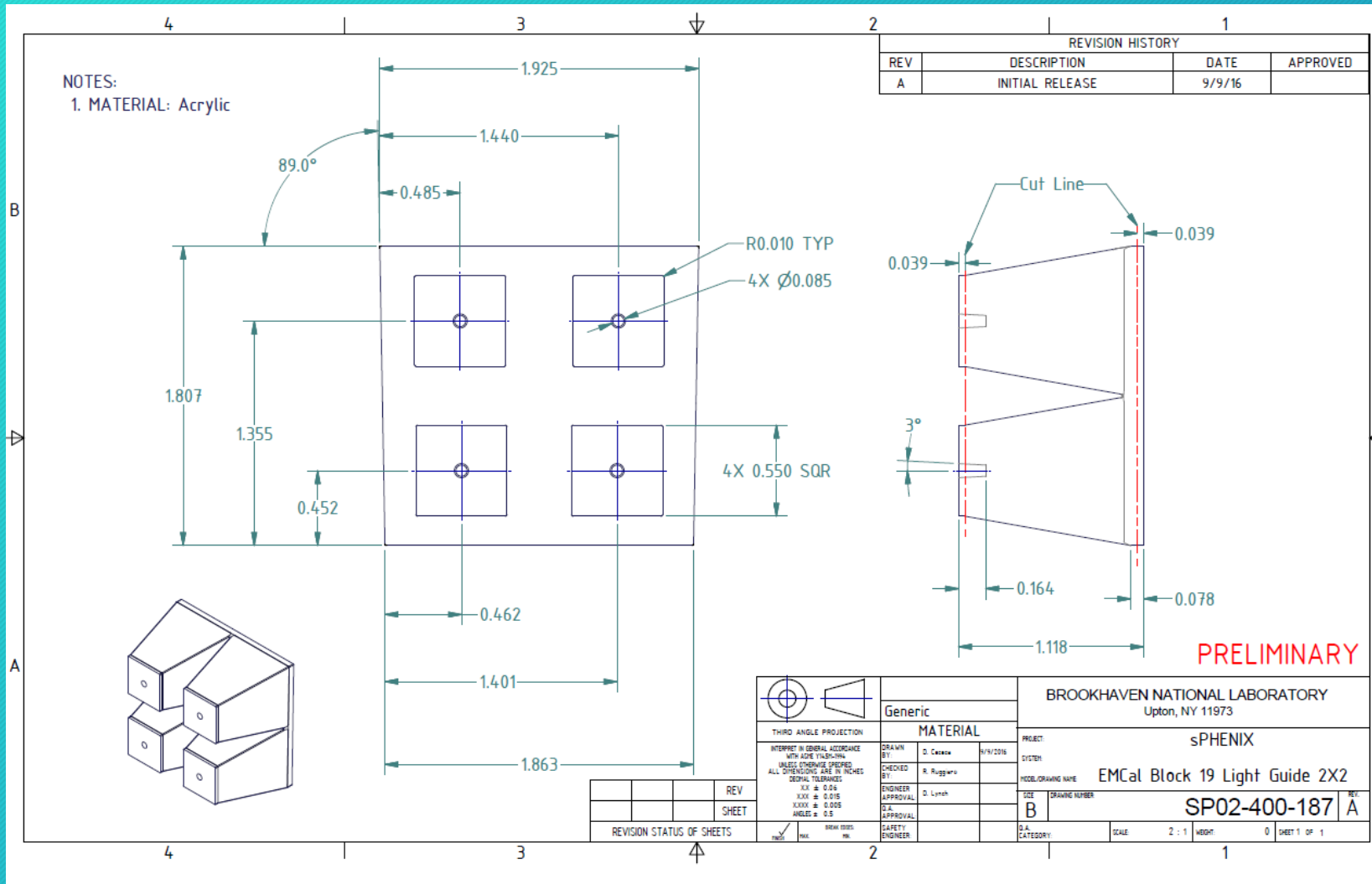






Scan across midline of light guides



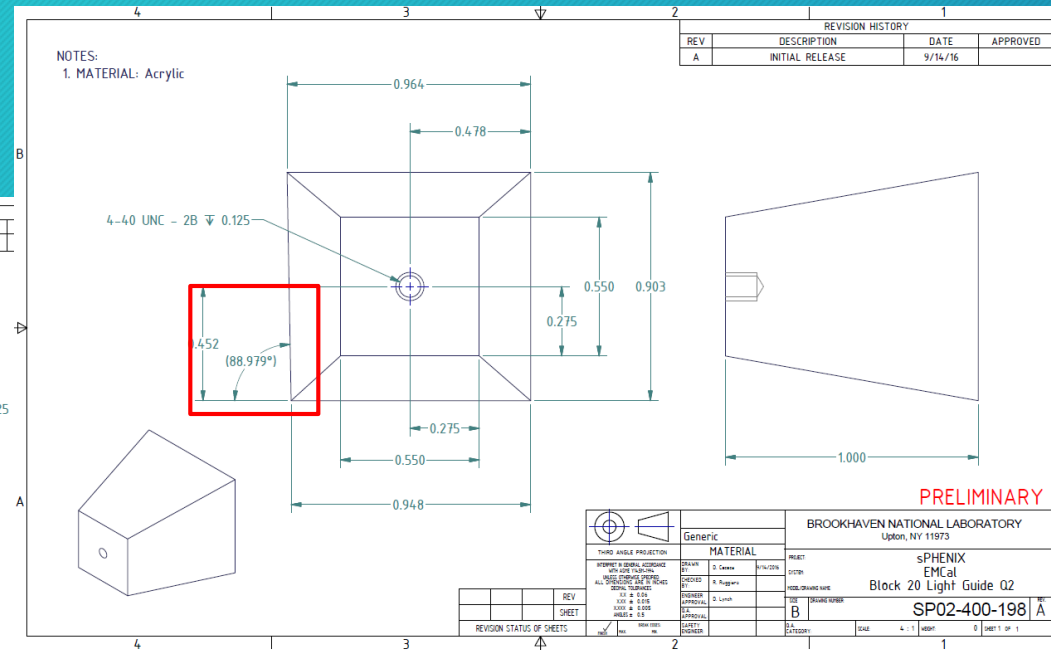
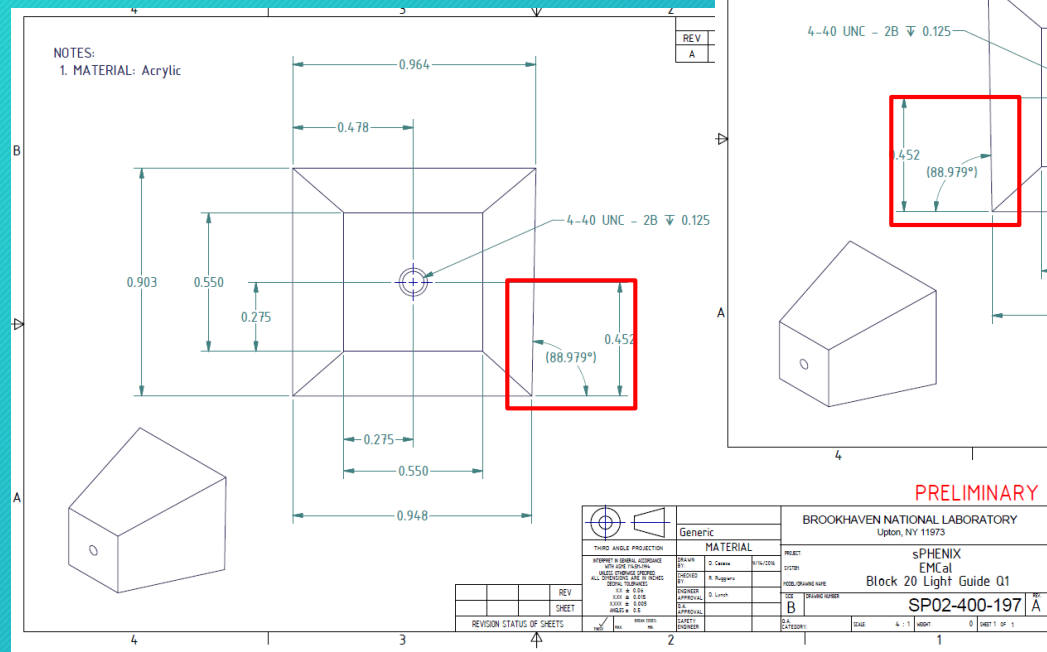


Dimensions of four blocks are very similar (< .006" difference) so can use the same light guide with smallest overall dimension on all blocks  
⇒ Need 16 pieces (more spares are cheap)

# Individual Light Guides

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Angle Right



Angle Left  
Mirror Images

Dimensions of four blocks are very similar (< .006" difference) so can use the same light guide with smallest overall dimension on all blocks

⇒ Need 4 different shapes x 8 pieces each = 32 light guides (plus spares ⇒ ~40)